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Jeff Beno

**PATENT**  
Atty. Docket No. 35236-1

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:  
  
DANIEL LOPEZ, ET AL.  
  
Serial No.: 09/249,728  
  
Filed: February 13, 1999  
  
For: RETICLE DEFECT DETECTION USING  
SIMULATION

Group Art Unit: 2623  
  
Examiner: Dastouri, Mehrdad

**APPELLANTS' REPLY BRIEF**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The following remarks respond to the Examiner's Answer, which was filed on February 23, 2004, in the above-referenced case.

Initially, the Examiner asserts that Appellants have not provided reasons as to why all of claims 1-22 to do not stand or fall together, as required by 37 CFR § 1.192(c)(7) and (c)(8). However, in the Arguments section of Appellants' opening Brief, each such Group includes at least one limitation or set of limitations that is not present in the other Groups and that is relied upon in Appellants' arguments as establishing patentability over the applied art. Accordingly, the grouping of the claims by Appellants is believed to be appropriate.

The Examiner also asserts that Appellants' arguments concerning the Group 2 claims are identical to their arguments for the Group 1 claims. However, this is not the case. The two groups of claims have certain similarities and, accordingly, many of the arguments for the Group 1 claims also apply to the Group 2 claims. However, there are differences as well. For example, the first two paragraphs and the third last paragraph of the arguments for the Group 2 claims emphasize certain features relating to the specification of a window around a defect and then the processing of digital image data corresponding to that window. Those features are not discussed at all in the arguments for the Group 1 claims.

In the present Answer, the Examiner mainly argues that the IBM Aerial Image Measurement System (AIMS) captures a digital image using a CCD camera. Appellants do not dispute this. However, the mere capture of a digital image and even the processing of digital image data is not what is recited in any of the groups of claims under consideration. That is, the present claims are not nearly that broad. Rather, as discussed in Appellants' opening Brief, the subject limitation is that digital image data corresponding to an image of a reticle are processed to simulate a response that would

be produced if the reticle were to be utilized in a photolithographic system. Although the Examiner initially (and cursorily) says that this is what the cited article by Budd et al. discloses, none of the Examiner's subsequent remarks substantiate this claim. In fact, the Examiner does not make this assertion again.

Rather, the remainder of the Examiner's remarks merely emphasize that a digital image is captured and displayed. In fact, the cited portion of the Budd article (the section titled "Tool development and description") actually supports Appellants arguments that the AIMS system does not process digital image data to simulate a response that would be produced by utilizing a reticle in a photolithographic system. More specifically, that portion of Budd expressly states that the AIMS system uses "an industrial microscope modified to control illumination  $\sigma$  and objective lens NA [numerical aperture]... to emulate the imaging characteristics of an optical stepper." Only after such optical emulation is the resulting optical (i.e., analog) image digitally captured.

The other arguments made by Appellants in their opening Brief have not been refuted at all in the Examiner's Answer.


In view of the foregoing remarks, all of the conclusions reached in Appellants' opening Brief are still believed to be correct. Accordingly, Appellants respectfully request reversal of the Examiner's rejections.

If there are any fees due in connection with the filing of this paper that have not been accounted for in this paper or the accompanying papers, please charge the fees to our Deposit Account No. 13-3735. If an extension of time under 37 C.F.R. 1.136 is required for the filing of this paper and is not accounted for in this paper or the accompanying papers, such an extension is requested and the fee (or any underpayment thereof) should also be charged to our Deposit Account. A duplicate copy of this page is enclosed for that purpose.

Respectfully submitted,

**MITCHELL, SILBERBERG & KNUPP LLP**

Dated: April 23, 2004

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